

OPERATING INSTRUCTIONS

for model Laboratory Refrigerator

LABEX-105

LABEX-285

LABEX-335

LABEX-465

TÜV approved according to guideline 94/9 EG, (ATEX 95)
EN 1127-1:1997 and BGR 120, figure 3.8, with marking

 II 3 G T6

With explosion proofed interior, automatic defrosting,
melt water for manual remove,
temperature selection from +2° to +20°C,
digital temperature display, optical and acoustic warning
in case of temperature deviation,
safety control device to prevent freezing,
switch centre with key switch,
minimum/maximum temperature memory,
potential free contact for BMS-system



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General Instructions:

Proper use: This pharmaceuticals refrigerator has been designed for the commercial storage of medications, which have to be kept refrigerated.

Please read through these operating instructions carefully before putting the appliance into operation. They contain important notes for the installation, use and maintenance of the appliance. The manufacturer shall not be held liable if the following instructions are not observed:

- Do not operate any appliance that has been damaged during transport. If in doubt, contact the supplier.
- Electrical connections must match the specifications on the type plate.
- The electrical safety of the appliance is only guaranteed if the earth system in the building wiring is installed correctly.
- In the event of interruption to operation, for maintenance, and for cleaning, always disconnect the appliance from the mains: remove the mains plug (do not pull it by the cable) or switch off/unscrew the fuse.
- Repairs are to be carried out by suitably qualified persons only. Incorrect repairs may result in serious risk to users.
- Do not damage any components in the refrigerant circuit. If the evaporator pipes are pierced by a sharp object, other pipes are bent, or the surface finish is scratched off, refrigerant spraying out can lead to eye injuries.
- Do not cover or close ventilation or aeration openings.
- Keep the key out of reach of children.
- Worn out appliances must be immediately rendered useless. Remove the mains plug and cut off the supply cable. Remove or destroy locks, to prevent children from locking themselves in whilst playing, as this could be fatal.
- Please contact your municipal waste disposal office for details of how to dispose of the appliance correctly. Please ensure that the refrigerator pipes are not damaged in any way before the appliance is transported away to disposed of in a correct and environmentally friendly manner.

Transporting the Appliance:

For transportation in a motor vehicle, the appliance must be kept vertical. If it has to be transported to its set-up location in a horizontal position for reasons of space, do not switch the appliance on for at least 1 hour after its installation.

Setting up the appliance:

Set up the appliance in a dry and well-ventilated position, away from heat sources. The appliance must stand firm and on an even surface. Use the adjustable feet to compensate for any unevenness of the floor surface (except Labex-105).

Getting Started:

Before putting the refrigerator into operation for the first time, clean the inside (see under cleaning).

Electrical Connection:

Connect the appliance to 220-240 Volt, 50/60 Hz AC supply (see type plate inside the appliance) via a properly installed socket. Fuse = 10 Amperes.

Key Switch (1)

The key switch has 3 settings.

In position 0, the appliance is switched off.

As long as the appliance remains connected to the mains supply, the word "OFF" will appear on display 3.

In position 1, the appliance is switched on.

In position P, the appliance works as in position 1, but it is possible to set or adjust the nominal value and warning threshold.

NOTE: Only run the appliance in position 1. We recommend removing the key to avoid the appliance being switched off by mistake.

Switching On:

Turn the key switch (1) to position 1.

NOTE: If the unit is equipped with an incorporated data logger, the display shows "rtc". Please set the clock according to the accompanying sheet. The time can be set in the parameter level or with the software.

The interior temperature is shown in the display (4).

Press the Set 12 button to view the set nominal temperature.

In the same way, the upper temperature warning threshold can be viewed by pressing the ▲T = ⑥ button and the lower temperature warning threshold can be viewed by pressing the ▼T = 13 button.

Advice: After switching on the temperature alarm will be activated after reaching the warning limit, but latest after 2 hours.

Setting the Temperature:

Turn key switch 1 to position P for the duration of the adjustment procedure.

Press the Set 12 button to show the interior temperature in the display (4). Temperature is adjusted ex works to +5°C.

To change the temperature setting, keep the Set 12 button depressed and use the Max ③ or Min ④ buttons to set the required refrigeration temperature.

Once temperature is set, return the key switch (1) to position 1. The current interior temperature is displayed again. The set nominal refrigeration temperature is automatically saved. It is retained even following a power failure or if the appliance is switched off.

The temperature regulator keeps the interior temperature to the set temperature, providing the environment temperature is approx. 3°C above the set interior temperature.

Warning Device:

The warning device works independently of temperature control.

Setting the Temperature Warning Thresholds (fixed ex works to +10° and +2°C):

NOTE: To change the warning threshold, the upper temperature warning threshold should be set at least 3°C higher and the lower temperature warning threshold at least 3°C lower than the selected refrigerator temperature. Turn key switch 1 to position P for the duration of the adjustment procedure.

Upper temperature warning threshold: keep the ▲T = ⑥ button depressed and use the Max ③ and Min ④ buttons to set the required temperature.

Lower temperature warning threshold: keep the ▼T = 13 button depressed and use the Max ③ and Min ④ buttons to set the required temperature. Then return the key switch (1) to position 1.

Temperature Alarm:

If the temperature falls below or rises above the set temperature warning thresholds, an audible signal is sounded, the remote warning contact is triggered and display (4) flashes alternately between the current temperature and the fault message (see fault and status messages).

The alarm sound can be switched off using the Reset ⑤ button. If the alarm status is still not eliminated after this, the alarm will sound again every 30 minutes. If, in the case of an alarm state, the alarm sound is not switched off and the alarm state is automatically eliminated, then the alarm sound will stop but the display continues to flash to show that an alarm state has been triggered. To stop the flashing, press the Reset ⑤ button.

Monitoring Unit Display Fault:

In the case of a fault which means the display and operating unit will not function, the alarm sound can only be switched off by disconnecting from the mains.

Mains Power Failure (Only Appliances Without Battery Pack)

In the case of a mains power failure, the display will go completely blank. However, the remote warning contact will be triggered. After elimination of the problem, the appliance will continue to work normally.

Mains Power Failure (Only Appliances With Battery Pack):

In the case of a mains power failure, the audible alarm is sounded, the remote warning contact is triggered and the display alternates between current temperature and the fault message PF (power failure). The alarm sound can be switched off using the Reset ⑤ button. If the alarm status is not eliminated, the alarm will sound again every 30 minutes. The monitoring unit remains in operation for approx. 72 hours. After elimination of the problem, the appliance will continue to work normally.

Defrosting:

If required, the appliance will automatically defrost every 12 hours. During the defrosting process, the yellow ② diode lights up. The meltwater is channelled into a dish, where it must be removed manually. The meltwater collector inside the appliance must be checked regularly and emptied manually.

If necessary, additional defrosting can be initiated by pressing the "defrost" ⑦ button (for at least 4 seconds).

Switching Off:

To switch off the appliance, turn the key switch (1) to position "0". As long as the appliance is still connected to the mains supply, the display (4) indicates "OFF". If the appliance is to remain off for some time, remove the mains plug and open the door, in order to prevent formation of odours and mould.

Safety Regulation:

If the control sensor (not at compressor) is faulty, the fault message E1 will appear in the display (4), an emergency programme takes over regulation of the refrigerator, and the alarm is sounded at the same time. This is to ensure that the refrigeration temperature remains within the warning threshold values. For this, the refrigeration temperature is dependant both on when the door is opened and on the ambient temperature, as regulation is only time-controlled and not temperature-controlled. Therefore, it is essential to contact customer services immediately.

Minimum/Maximum Temperature Memory:

The min./max. memory starts when the nominal temperature is reached for the first time. It stores the highest and lowest temperature values since either the initial start or the last reset.

Requesting/Deleting Minimum/Maximum Temperature:

For the min. or max. temperature to be shown on the display (4), press the respective ③ or ⑧ button and.

To delete the max. memory, keep the ③ button depressed and reset the value using the ⑤ button. To delete the min. memory, keep the ⑧ button depressed and reset the value using the ⑤ button. The display (4) will show "----".

Connection to Central Conductor Technology:

The terminals for the RS 485 interface and the voltage-free alarm contact (3 pole alternating contact) are on the back of the appliance. This is contact completed during an alarm status and when the appliance is switched off. Exception: door open alarm. The contact is designed for max. 42V 1A.

Cleaning and Maintenance:

Before cleaning, always remove the plug from the mains or switch off/unscrew the fuse.

Cleaning water must not be allowed into the electrical components.

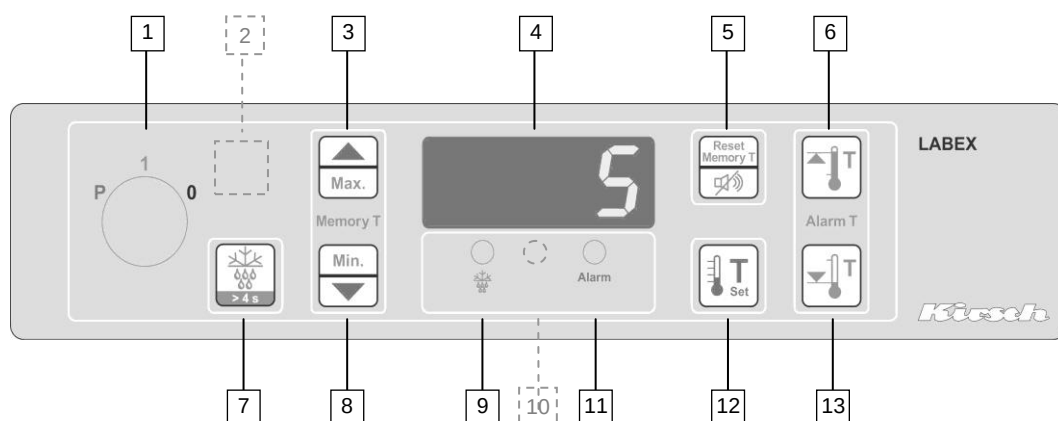
Clean the drawers using warm water and mild detergent. Abrasive or acidic cleaning agents or chemical solvents are not suitable.

Only rinse the door seal with clean water and dry it thoroughly.

The drawers and shelves can be removed for cleaning.

Treat the outside casing with paint cleaner and care agent.

Every 3-6 months, clean the condenser (black wire construction), which is situated either on the back or inside the machine room – depending on the model – using a brush or vacuum cleaner. This ensures that the refrigerator works to full capacity.



Fault and Status Messages

Fault messages are displayed alternately with the current temperature. If no temperature value is available, then the fault message will flash. If several faults have occurred, these are displayed in succession and alternately with the temperature value.

Display	Cause	Effect	Measure
OFF	Key switch in position 0	Appliance connected to mains supply, regulator on stand-by	Switch appliance on, turn key switch to position 1
Diode 9	Flashing: thawing necessary On: thawing process active		
Diode 11	On: collective alarm		
Hi	Temperature above warning threshold A1	High temperature alarm (poss. too many warm items at once or door left open too long)	Observe whether status soon returns to normal. If not, there is a technical problem. Call customer services
Lo	Temperature below warning threshold A2	Low temperature alarm, safety device is triggered, monitoring circuit has switched off the refrigerator (can occur if the door has been open for a long period, if the appliance is under-cooled by the refrigeration unit).	Observe whether status soon returns to normal. If not, there is a technical problem. Call customer services
E1	Cold store sensor fault, break or short-circuit	Cold regulator works in emergency programme	Check sensor Call customer services
E2	Evaporator sensor fault, break or short-circuit	Cold regulator works normally, thawing is only limited by time	Check sensor Call customer services
E3	monitoring sensor 1 fault, break or short-circuit	Cold regulator continues to work, monitoring circuit has no temperature control	Check sensor Call customer services
EP0	Fault during self-test in cooling regulator	Monitoring circuit takes over temperature control	Call customer services
EP1	Loss of data in parameter memory	Cooling regulator switches off, monitoring circuit takes over temperature control	Check parameters Call customer services
EP2	Fault during self-test by operating panel	Cooling regulator and monitoring circuit working, buzzer and alarm relay in monitoring circuit are on	Call customer services
EP3	Loss of data in operating panel parameter memory	Cooling regulator switches off, monitoring circuit takes over temperature control	Check parameters Call customer services
EP4	Fault during self-test in monitoring circuit	Cooling regulator is active Monitoring circuit triggers alarm but does not intervene in temperature regulation	Call customer services
EP5	Loss of data in monitoring circuit parameter memory	Cooling regulator is active Monitoring circuit triggers alarm but does not intervene in temperature regulation	Check parameters Call customer services
EP6	Loss of data in data memory	Cooling regulator is active, monitoring circuit triggers alarm, no data recording	Call customer services
F90 – F93	Hardware conflict		Check connecting cable between operating panel and control board, otherwise replace control unit
Optional Equipment:			
Acc	Battery pack fault		Replace battery pack or check connection, call customer services
PF	Power failure	No cooling, alarm triggered, remote warning contact triggered	Check power supply
rtc	Time not correct	Wrong time for data output	Set clock according to accompanying sheet

If a fault status cannot be eliminated immediately, store the contents in another refrigerator and do not use the appliance until the service technician arrives.

EC Declaration of Conformity

Konformitätserklärung Déclaration de Conformité

We, **Philipp Kirsch GmbH, Okenstraße 103, 77652 Offenburg, Germany**, accepting sole responsibility, declare that the product described below is compliant with the protective requirements of the specified directives and standards at the time of entering into circulation.

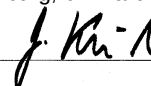
Product description:

Make	Appliance Category	Type
Kirsch	Refrigerator	LABEX-105 from factory no. 100 061 0100
Kirsch	Refrigerator	LABEX-285 from factory no. 280 110 1001
Kirsch	Refrigerator	LABEX-335 from factory no. 330 090 1001
Kirsch	Refrigerator	LABEX-465 from factory no. 460 040 1001

Directives: EC Low Voltage Directive 73/23 EEC and 93/68 EEC, Electromagnetic Compatibility 89/336 EEC

Harmonised standards: EN 55014-1:2000+A1:2001+A2:2002
EN 61000-3-2:2000, EN 61000-3-3:1995+A1:2001
EN 50366:2003, EN 55014-2:1997+A1:2001

Offenburg, 6th March 2006



Georg Kirsch
Managing Director

Year of EC labelling (low voltage directive): 2006

For refrigerators and freezers with optional settings

Setting the date and time:

Turn key switch to position "P".

Press key 3 ▲ and key 8 ▼ at the same time until PA0 is shown in the display, and then release the keys.

Press the Set key 12 briefly. The display will show the first parameter d1 in the menu level.

When you are in this level, you can page through the parameter list with the key 3 ▲ or key 8 ▼. Press the SET key to show the value of the set parameter. If you then press the key 3 ▲ or key 8 ▼ you can change this value. When you release the SET key, the new value is saved immediately.

The display will automatically switch back to the basic display if no key has been pressed for 45 seconds or when the keys 3 ▲ and 8 ▼ are pressed simultaneously for about 4 seconds, or by turning the key switch to position 1.

Parameter	Description of function	Setting range	Standard value
d1	Defrosting interval	0 = no automatic defrosting 1 =99 hrs.	8 hrs.
d3	Stop at defrosting temperature	0 30.0°C	5.0°C
H1	Actual value of refrigeration compartment sensor F1	-	-
H2	Actual value of evaporator sensor F2 if applicable	-	-
H3	Actual value of monitoring sensor F3, no delay	-	-
H4	Actual value of monitoring sensor F4 no delay, if applicable	-	-
H5	Correction analogue input 1/2	-9999.0 K	0.0 K
H6	Correction analogue input 3/4	-9999.0 K	0.0 K
H15	Actual value of battery voltage (for battery option)	-	-
r2	Current time	0:0023:59	-
r3	Current date	1.01. ... 31.12.	-
r4	Year	2000 ...2099	-
r5	Weekday	0 = Monday6 = Sunday	0
H0	Service display	0 ...4	0
PA0	Password menu level PA0	-99999	0

The parameters r2 to r5 are for the time and date.

The other parameters have been set ex-works and should not be changed. If rtc is shown in the display, the time and date are not set correctly.

The parameter H0 allows you to bring a certain sensor into the display for 5 minutes. After this time the display automatically switches back to the normal display. A 1 needs to be entered for sensor F1, a 2 for sensor F2 etc.

Connection of the RS 485 interface with the gateway:

The 10 m long screened line in the PC Kit can be shortened to the required length. Depending on the model, the interface is on the reverse or above in the machine compartment.

The enclosed metal strain-relief also serves to bond the line screening. To do this, the screening and the line sheath need to be clamped under the strain-relief.

Of the four wires in the line, only the brown and white wires are required. Connect contact 1 and 2 to terminal x11 on the reverse of the refrigerator. There is a load resistor connected to the terminal X12; this is only removed if several refrigerators are connected into a network.

The other end of the line is connected to the gateway on terminals 1 and 2. Caution: Ensure that contact 1 is connected with 1 and contact 2 with 2.

Connect the gateway with the enclosed USB cable to the USB interface on the computer.

Switch the gateway on using the on/off switch.

Install the software.

